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(54) CORE SHEATH DRUG DELIVERY DEVICES

(57) It relates to a device comprising (a) a core comprising polyurethane; (b) a sheath comprising ethylene vinyl acetate copolymer, said sheath substantially or completely surrounding said core; and (c) one or more

active pharmaceutical ingredients dissolved or dispersed in said core and/or said sheath; and to a process for its preparation.

(52) Cooperative Patent Classification (CPC): (Cont.)

C-Sets

A61K 31/567, A61K 2300/00;
A61K 31/569, A61K 2300/00



EUROPEAN SEARCH REPORT

Application Number

EP 23 15 4951

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
10	X WO 2008/061963 A2 (ORGANON NV [NL]; INTERVET INT BV [NL]; DRIANCOURT MARC-ANTOINE [FR]; D) 29 May 2008 (2008-05-29) Y * page 3, line 33 – page 4, line 5 * * page 5, line 10 – page 7, line 7 * * page 10, lines 15-19 * ----- Y, D EP 1 732 520 B1 (ORGANON NV [NL]) 24 June 2009 (2009-06-24) * page 2, paragraph 0012 – page 3, paragraph 0016 * -----	1-3, 5, 8, 15-18, 21 4 4	INV. A61K9/00 A61K47/32 A61K47/34 A61K31/00 A61F6/06 A61P15/18 ADD. A61F6/14 A61K31/567 A61K31/569 A61K31/57 A61K45/06 A61P15/00
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50	1 The present search report has been drawn up for all claims		
55	Place of search Munich	Date of completion of the search 12 May 2023	Examiner Cortés Suárez, José
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			
T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			



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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

10 Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

15 No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

20 see sheet B

25 All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

30 As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

35 Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

40 None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

45 1-5, 8, 15-18, 21

50 The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).



LACK OF UNITY OF INVENTION
SHEET B

Application Number
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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

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1. claims: 1-5, 8, 15-18, 21

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A device comprising: (a) a core comprising polyurethane; (b) a sheath substantially or completely surrounding said core, said sheath comprising ethylene vinyl acetate copolymer; and (c) one or more active pharmaceutical ingredients dissolved or dispersed in said core and/or said sheath; wherein the active pharmaceutical ingredients are present in the core in a concentration below its saturation concentration.

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2. claims: 6, 7, 9-14

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A device comprising: (a) a core comprising polyurethane; (b) a sheath substantially or completely surrounding said core, said sheath comprising ethylene vinyl acetate copolymer; and (c) one or more active pharmaceutical ingredients dissolved or dispersed in said core and/or said sheath; wherein the estrogen is ethinyl estradiol.

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A device comprising: (a) a core comprising polyurethane; (b) a sheath substantially or completely surrounding said core, said sheath comprising ethylene vinyl acetate copolymer; and (c) one or more active pharmaceutical ingredients dissolved or dispersed in said core and/or said sheath; wherein the progestin is etonogestrel.

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A device comprising: (a) a core comprising polyurethane; (b) a sheath substantially or completely surrounding said core, said sheath comprising ethylene vinyl acetate copolymer; and (c) one or more active pharmaceutical ingredients dissolved or dispersed in said core and/or said sheath; wherein the progestin is levonorgestrel.

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3. claim: 19

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A device comprising: (a) a core comprising polyurethane; (b) a sheath substantially or completely surrounding said core, said sheath comprising ethylene vinyl acetate copolymer; and (c) one or more active pharmaceutical ingredients dissolved or dispersed in said core and/or said sheath; wherein the device is a vaginal ring.

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4. claim: 20

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A device comprising: (a) a core comprising polyurethane; (b) a sheath substantially or completely surrounding said core, said sheath comprising ethylene vinyl acetate copolymer; and (c) one or more active pharmaceutical ingredients dissolved or dispersed in said core and/or said sheath; wherein the pharmaceutical ingredients are encapsulated prior to



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**LACK OF UNITY OF INVENTION
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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

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incorporation into the device.

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ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.

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5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

12-05-2023

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